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THE VALUE OF CATUSPATHA AS A PUBLIC SPACE FOR THE BALINESE COMMUNITY IN THE KLUNGKUNG CITY, BALI INDONESIA: THE STRUGGLE FOR ACTIVITIES BETWEEN POLITICS, ECONOMICS AND SOCIO-CULTURE

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**Frysa Wiriantari¹, Syamsul Alam Paturusi², Ngakan Ketut Acwin Dwijendra³ I
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ABSTRACT

The role of public space as one element of the city can provide character and identity for a city. In general, public space has a function of social interaction for the community, people's economic activities, and a place of cultural appreciation. As a center of interaction, public communication can be formal or informal. Also, as a means of organizing religious activities and other activities that involve many periods. Catuspatha as part of the city's public space with its functions and values seeks to maintain its consistency in the midst of modernization. This research is focused on the function of the catuspatha as the city's current public space, by taking research locations in the city of Semarapura, Klungkung Regency, Bali. These locations were taken in view of being the center of government in the royal era and the center of Balinese cultural development. The purpose of this study is to find the value and function of the current catuspatha. This study shows that the catuspatha not only functions as the center of the city and the religious activities especially for the Balinese Hindu community but also becomes the center of worship activities for other people, in particular on religious holidays. Also, the arrangement of facilities around the catuspatha leads the wider

community to carry out social activities both physical and psychological activities at the *catuspatha* on a local and national scale.

1. Introduction

Along with the development of the city and the people in it demands the need for public space. Aside from being a forum for activities and meeting various needs, public space is also a natural need for every human being [1] [2]. Public space creates interaction between one human and many other humans [3]. Activities in public spaces will provide a different atmosphere and experience for the activity actors. Public space must meet various criteria to be considered successful in supporting various community activities [4]. Able to accommodate the aspirations of the community so as to give birth to a sense of belonging to the public space as an identity of the city where the public space is located [5] [6]. Public space is one of the elements of urban design, which is also a key to individual and social welfare. A place where social expression and cultural diversity are referred to as shared identity [7].

Catuspatha as an open public space is the core of the formation of a city [8]. As a public space formed since the start of the development of the city, the *catuspatha* is often considered a city embryo [9]. In general, *catuspatha* is located at the intersection of four roads. On the sides, there are supporting facilities for city life such as castle, field, market, and *wantilan* [10] [11][70]. All of these facilities except the castle are public facilities that are often interpreted as public spaces. In several cities/regencies in Bali, the function of the castle has been changed to a district/city level government office. The castle that still exists around the *catuspatha* mostly incidentally provides space for the public to carry out socio-cultural related activities such as art performances and cultural competitions [12] [8].

As cultural wealth and local wisdom of Bali, *catuspatha* must continue to maintain its role in the midst of globalization. In the midst of the change of society towards urban society with heterogeneity as well as changes in the political system of the kingdom into a republic or local to a global society, *catuspatha* maintains its role as a space for social activities as well as cultural and religious activities. The form and spatial meaning of the concept of *catuspatha* which has static and dynamic properties bring the *catuspatha* to survive in its current condition. It is being static because there are several elements, types, and values that survive global demands and are declared dynamic because the *catuspatha* concept accommodates global demands and changes [13][69].

The emergence of problems related to public space in the midst of efforts to create a sustainable city and the importance of *catuspatha* as part of public space that is easily accessed and utilized as much as possible by the community makes the role of *catuspatha* now more important [14]. The decreasing quantity and quality of public space make a threat to *catuspatha* as well as the surrounding facilities. *Catuspatha* plays an important role in the city, especially in Bali, mainly related to the *catuspatha* as the center of the city and also as a place for the public to be active in economic, political, and social culture.

The problem raised in this research is the role of *catuspatha* as a public space in urban society. Considering that public space is the space most used by all people both alone and simultaneously. So many activities and groups of people who use public space show the diverse role of the *catuspatha* as public space. The research location is in Semarapura City, Klungkung. This location was

taken bearing in mind that the City of Semarang was the center of government in royal era and the development of Balinese arts and culture in the past [15][61][68][74]. As the center of government, the Semarang City of Klungkung has a link between the administrative and political system which indirectly influences the role of the *catuspatha* in the city. The use of *catuspatha* as a public space and a place for people in their activities, especially political, economic, and socio-cultural activities, is not inseparable from efforts to create urban sustainability.

2. Literature Review

The Important of Public Space as City Activities

Open space as a public space is a human-oriented space [16] is a place or space formed because of the need for a place to meet or communicate [17] [18][71][76]. Public spaces are often open spaces that can accommodate the need for meeting places and joint activities in the open air. This space enables human encounters to interact with each other and also have mutual activities. Public space is often even considered as one of the ways to improve the quality of life by expressing diversity in everyday natural life, it is also a cultural expression that shapes the identity of the city [1][65][66]. Basically, this space is a container that can accommodate certain activities of humans, both individually and in groups. Every public space has great access to the surrounding environment, where people/users of public space meet and the behavior of the public space user community to each other follow local norms. Spatially public space is defined as a place where everyone has the right to use it without having to pay an entrance fee or other money [19][67][72].

Public space is generally characterized by three things: responsive, democratic, and meaningful [20]. Responsive in the sense of public space is a space that can be used by all levels of society in the region for various physical and non-physical activities and broad interests. Democratic, meaning that public space can be used by the general public from various social, economic, and cultural backgrounds and is accessible to a variety of physical conditions of humans including those with limited physical abilities. Meaning has the meaning that public space must have a link between humans, space, and the wider world with social contexts [21][63][64]. Public space contains elements of identity and history, where traditionally public space is the center of activity that forms the identity of a city [22][73]. Usually marked by the shape and size that stands out compared to the environment. Public space has a certain attraction that attracts many people, it can be something physical, but it can also be something psychic. This psychic form of tranquility that makes it comfortable for those who use it both adult users and children. Open space access has proximity and stability for accessibility, easy to reach by foot, proximity to major roads, not passed by solid vehicles, or vehicles that pass at slow speeds [7] [23].

Open space must be able to facilitate the activities of users and keep in touch directly or interact with other users [24]. Open spaces must be easily accessible either by motorized vehicles or on foot [25] [26]. Broadly speaking, public open space is divided into two types, the first is elongated open space (corridor) which generally has borders on the sides. Second, open space with a round or square shape which generally has a boundary around it [27]. Open space will have an impact on daily life, several functions of open space are social functions, as a place to socialize or communicate, a place to play and exercise,

a place to get fresh air. Ecological function, to soften the architecture of buildings, absorb rainwater, prevent floods. Refreshing air, improving microclimate by reducing heat, and maintaining ecosystem balance [3] [28].

'Catuspatha' as Public Space, City Node or Circulation for the Balinese Communities

Catuspatha is a form of public open space for the Balinese Hindu community [29]. This open space is often used by the community to carry out various activities both in the form of formal and non-formal (multi-functional) activities [30]. *Catuspatha* is an open area that is generally found in the heart of a traditional city as a community or community gathering and *catuspatha* is often referred to as an embryo from the birth of a city [26]. *Catuspatha* can be said as a node which is one of the elements that make a city recognizable and understood [31]. And the node gives the city a strong image [25] [32] [31].

The philosophy of space in Bali developed from the teachings of *Tat Twam Asi* [33]. *Tat Twam Asi* means "I am You". The purpose of this teaching is to create balance and harmony with all of God's creations [34]. In the next embodiment, *Tat Twam Asi* developed into *Tri Hita Karana* which also has almost the same meaning. *Tri Hita Karana* which means a harmonious relationship between humans and God, humans with the environment, and humans with other humans [35] [36]. Balinese people in their daily life believe that there are three influential factors and efforts must be taken to maintain their balance because they play a role in the achievement of a good life, happiness, and health, namely: microcosm (*bhuana alit*), macrocosm (*bhuana agung*) and God. The elements that makeup *Tri Hita Karana* both in the universe and in the human body itself are classified into three main parts namely *Atma* (soul/spirit), *prana* (energy), and *sarira* (body/container) [37][80][81][82]. If this is related to *Tri Hita Karana* then it can be drawn the relationship that the value element is the same as *Parhyangan*, the social element is *Pawongan* and the artifact element is the same as *Palemahan*. Open space in the context of *Tri Hita Karana* is a space (container) in creating a harmonious relationship between humans and the environment [38][62][77][78][79]. The open space for the Balinese Hindu community is generally used as a medium or container for the renewal of ritual activities - creating a balance between the scale space and the noetic space. To create a balance in the traditional Balinese space, it is not only realized in the Balinese or Balinese Hindu sanctuary or sacred space but also the rooms that are at the *teben* level namely *Natahand Lebu* [4].

The foundation of the concept of space in Bali is guided by the development of concepts: *Andabhuwana*, *Tri Mandala*, and *Catuspatha* [39]. Based on the concept of *Andabhuwana* or *Bhuwananda* the concept of space in Bali is oriented to local natural potential. *Andabhuwana* means nature that is round like an egg as a symbol of the form of *Brahmanda* which is the beginning of life. The word "*Andabhuwana*" in Sanskrit "*Anda*" means an egg and *bhuwana* means nature like these planets in space. This concept states that the orientation of space refers to the direction: sky-earth; mountain-sea (direction: north-south); sunrise and sunset (direction: east-west).

The *Tri Mandala* space concept is a concept that describes the concept of the spatial value that is related to the three values of an area. *Tri Mandala* consists of sacred/spiritual space, a profane/communal room, service/commercial room. [40]. The *Tri Mandala* layout is guided by the direction of the mountains and the sea (North-South) and the direction of sunset and sunrise (East-West). This

means that the mountain and sun areas are considered as sacred areas and for spiritual activities (*main mandala*), communal space is in the middle (*madyamandala*) and the direction of the sea and sunsets are considered as nasty areas and are used for commercial activities (*nistanandala*). *Tri Mandala* is one of the elements of the implementation of *Tri Hita Karana*, where harmony can occur to the environment in a certain region (yard, temple, etc.) must be arranged based on the concept of upstream, middle, and downstream. The upstream area, in the *Tri Mandala* concept, is called the *Utama Mandala*, where sacred areas are built, as is the case for sacred buildings for *Ida Betara* (temples, and place of worship). The middle area, in the concept of *Tri Mandala*, is called *madyamandala*, wherein that area, it was built for the benefit of humans (residential houses). Furthermore, the *teben* area (downstream) in the *Tri Mandala* concept, is called the *nistamandala*, where in the area, it is used for the benefit of *tebe* (backyard) i.e. for animals and plants [41] [42] [35] [43].

Other Balinese space concepts are *catuspatha*. The term *catuspatha* comes from Sanskrit *catus* which means four and *patha* which means road so that when combined it will mean a four-pronged or four-junction road. *Catuspatha* is a cross pattern (tread), a meeting of four roads leading to each of the winds (East-West, North-South), giving rise to the earth and symbolizing '*swastika*' as a sign of good luck [44]. The confluence of the four road sections that are empty spaces is determined by the location of the residence of the holder of state/royal power or the 'castle'. In the center of the city, this castle was built with various amenities. The castle as the seat of the king of the highest authority in a kingdom occupies one corner of the *catuspatha*. [11]. The virtue of the castle is also determined by two things, namely municipal facilities and the number of *palebahan*. Facilities outside the castle/municipality (*bencingahpuri*) consist of three (3) royal facilities namely *wantilan* (public buildings), markets, and recreational parks that occupy the other three corners. *Catuspahais* considered the center of the country which is also the energy center of the region. *Catuspatha* is an expression of the cross-axis space pattern, as the crossing of the earth's axis (north-south), with the sun's axis (east-west), which is oriented to the center of the crossroad (the great crossroad). The value of "center point" in the concept of 'great cross' *catuspathais* zero or empty, with the meaning "supremely perfect" [45]. Its existence is further strengthened by the availability of one parcel of vacant land, at each corner of the intersection that functions as a "green open space" [36] [46]. Development of the concept of open space which is macro in nature is also located in the middle of settlements called *karangembang*, while those outside settlements are called *karangbengang* as a margin between settlements, and the more micro becomes the open space that is within each center point of plot land called *natah or natar* [44].

In its position as the center of the state, the *catuspatha* contains the elements: castle as a palace or center of government and concurrently as a house of office; market as a trading center/place of a transaction; *wantilan* building as a center for culture/entertainment especially cockfighting (*tajen*); and public open space used for recreational parks, sometimes with a long open building (*bale lantang*). The castle as the center on the power of government was found taking a position on the northeast, southwest, and northwest center *catuspatha* [47] [10].

Catuspatha basic shape cross (+) in terms of Balinese is also called the *tampakdara* mythology contained in *Lontar Catur Bumi*. The ancient Greeks

called this *tampakdara* as gammadion. This *tampakdara* inspired Cartesian coordinates in mathematics and became the basis of the *swastika*. If the *swastika* is a symbol of the rotation of the universe, then it appears that *tampakdara* (the axis of the cross) is the symbol of the universe. This *tampakdara* is also used as an antidote to avoid disaster. The meaning of the philosophy of *catuspatha* when associated with the ritual activities of the Hindu community in Bali which is carried out in the *catuspatha*, is a symbol of the process of creation and life towards and starting from the realm of emptiness. At that point, there is a meeting between the *purusa* elements and *pradana*, or heaven-earth so that life in the universe is created which is repetitively processed to return to God as the One [46].

At the time of the kingdom in Bali, *catuspatha* was not just a junction with sacred value, but also related to its status as the center of the royal capital. The existence of the *catuspatha* as the center of the royal capital is indicated by the presence of the castle, market, wantilan, the square, and the crossroad located in the four directions of the compass [1]. These elements are the embodiment of all human activities that are symbols of material and spiritual life that are implemented in the *catuspatha* with ritual, political/government, economic, and cultural activities. Based on this statement *catuspatha* as the center of the royal capital not only functions as a center of government but also functions as an economic and cultural center as well as a magical center of the kingdom. [48].

3. Results and Discussion

Culture and social activities are forms of Balinese culture that also underlie spatial planning. *Catuspatha* as part of the culture of Balinese Hindu society can be seen from several sides, namely the ideological side, the cosmological side, the symbolic side, and the psychological side. The ideological side is related to the determination of the position (residence) of the head of state/head of the region. *Catuspatha* is the fourth meeting point of the road called *raksabhua* which is the base for determining the residence of the head of state. The cosmology side is related to the direction of sunrise and sunset, also associated with the position of the sea-mountain. From this conception was born that the kingdom is composed as a miniature image of the universe [49]. The symbolic side, *catuspatha* is a crossbar or tread which is the basis of the *swastika* symbol, which is also a symbol of the universe. *Catuspatha* with facilities around it is a symbol of state power that reflects a central kingdom [50]. The sociological side, the space that is at the intersection of a road is a city yard or *natah*. As a combination of *akasa* and *pertiwi* elements, the *catuspatha* has an important and high value for the welfare of the community, so that diversity, social and entertainment activities for the whole community are held in the *catuspatha* and also become the center of the orientation of surrounding facilities [51]. Assessment of community conditions, social communication, and social interaction occurs in the *catuspatha* either when there are activities in city facilities in this area or activities that are held in the *catuspatha* itself [52] [53].

The main religious-related activity carried out at the *Catuspatha* is the tawur activity on *Tilem Kesanga* Day. This activity which is carried out once a year which aims to preserve nature has meaning to motivate Hindus in a ritual and spiritual manner so that nature is always a source of life [54]. Incidentally functioned as a place to perform ritual activities such as *ngulapin*, *nebusin*, *ngelawang*, and others [55]. Non-Hindu religious activities are also carried out in this place, mainly activities that involve all citizens so that they require

relatively large spaces. In the *catuspathain* Semarang, the open space around the *catuspathais* is also often used as a place to perform Eid Al-Fitr and Eid Al-Adha prayers which are usually held in the PuputanKlungkung field. This location also supports supporting the celebration of other religious worship activities.

In addition to religious sacred activities, several profane activities involving a considerable amount of time are also often carried out in the *catuspatha*. *Catuspatha* Semarang, for example, some quite interesting activities were the mass TelekDance activities. This activity involved more than 1000 dancers and gamelan players. The activity was carried out in 2019 aims to dispel disasters and cleanse the world of all kinds of defilements [56]. This activity is the first colossal dance activity held at *Catuspatha* Semarang and recorded in the MURI record. Another activity is the implementation of mass yoga activities. This activity was carried out in series with the Semarang City Anniversary involving more than 700 people.

The activity which was focused on its implementation in front of the PuputanKlungkung Monument and in front of the *Catuspatha* Semarang Statue invited the attention of many people both from around the area and even from outside Klungkung Regency. In addition to the above activities, quite a lot of social and cultural activities are focused on the *catuspatha* area. This area was chosen because it is located in the center of the city and is very easy to reach because of its nature as an icon/landmark of the city of Semarang [5]. The architecture and arrangement around *Catuspatha* Semarang provide space for people to express and be creative. *Catusphata* which is located at the intersection of four roads becomes a safe and comfortable public space for activities [57]. The closure of several roads at certain moments has an impact on the presence of the community in the public space for activities. So indirectly the space created from the architecture around the *catuspatha* forms activities for the community, both those that are sacred and those that are profane [58] [59].

Some uses of the *catuspatha* and surrounding facilities as public spaces are reflected in several functions of the *catuspatha*, firstly, function as an icon of the city center as indicated by the placement of the statue at the center of the *catuspatha*. In Semarang City there is a statue of Klungkung Kanda Pat Sari, meaning four brothers who already possessed a pure power from the elements that provided happiness in life. The four siblings were born and died together. For the Semarang Kanda Pat Sari environment, it means that the community always maintains harmonious relations between peers, creating harmony, vertically and horizontally as well as upholding the tolerance values of the diversity of customs and culture [59]. At present both of these objects are becoming objects for selfie tourism, not only because of the existence of the statue itself but also because the facilities available in the vicinity are very interesting to be photographed [60]. Second, the function as the center of government is indicated by the existence of the Klungkung Regent's office which can be analogized as a "castle" for the implementation of government. Third, socio-economic function as indicated by the existence of several public buildings that support the community's economy, including banking facilities and traditional markets [29]. Four, the socio-cultural function that is indicated by the existence of the Semarang Museum, Jagatnatha Temple and cultural arts performances, the Semarang festivals, and the ogohogoh festival in the square. In Semarang itself there are heritage buildings of the Klungkung kingdom, Kerta Gosha and Bali Kambang. Until now the object still has a close

relationship with the socio-cultural activities of the community. Fifth, the function of the ritual is demonstrated by the existence of the Jagatnatha Temple and the performance of the *kesanga*, *mesangih*, and mass cremation in the square. However, the function of the ritual experienced a shift in meaning, especially in the activities of *tawur* which were supposed to be carried out at the center of the *catuspatha*. Sixth, the function of recreation and sports is indicated by the presence of playground facilities, chess sports activities, and skateboard sports in the square as well as car-free day which is held every Sunday at *Catuspatha* Semarapura.

Catuspatha is also often said to be the "*natah*" of the city because it is an open space in the middle of the city with its emptiness including the vacancy formed by the existence of the square as one of the facilities around *catuspatha* and formed by making a distance between the buildings around it. The existence of the square as one of the elements of *catuspatha* indirectly gives meaning to the function of the *catuspatha* as a whole. Safety conception as a space for "self-rescue" or early evacuation of earthquake disasters. The conception of balance is *natah* and *lebuh* as space or a point of escape from the imbalance that engulfs the universe [36].

The existence of *catuspatha* with all its attributes and facilities such as monuments, playground facilities, stage/circles, as well as softscape and hardscape elements that provide aesthetic value for *catuspatha* shows its function as the center of orientation and "*natah*" or city pages. *Catuspatha* is a destination for people to gather with a variety of activities so that the center of orientation not only binds the mass of buildings that are around it but also becomes a gathering point for city communities. The variety of activities available such as chess and skateboard sports, art performances also show recreational functions and sports functions at facilities around the *catuspatha*.

4. Conclusion

Cultural sustainability in addition to being a strong foundation in spatial planning in the present and the future also has an expressive value that can display the identity of the city with cultural insights. Cultural values that need to be considered to be continued in urban planning, one of which is *catuspatha*. As a spatial pattern of the central government and as a regional center, the *catuspatha* has important values and functions for the surrounding community especially the Balinese Hindu community. Aside from being an embryo from a city, *catuspatha* has a function as a public space which becomes a place for carrying out various religious, political, and socio-cultural activities. *Catuspatha* becomes a public space that can facilitate the needs of people to interact socially. Through the management and structuring of facilities around public spaces, *catuspatha* becomes a facility capable of forming and directing people to attend and enjoy *catuspatha* as a space for mutual interaction. Currently, *catuspatha* as a public space is not only occupied by people who live in the vicinity but also outside communities who are interested in participating in various activities carried out in the public space of *catuspatha*. Providing adequate space and opportunities for cultural/religious activities that can be carried out wisely and safely can build a representative cultural nuance and will support the building of a cultural city identity in the aspect of the activity.

5. References

- [1] K. Williams, S. Green, C. Dair, S. Mcglynn, and E. Burton, "Literature Review of Public Space and Local Environments for the Cross Cutting Review FINAL REPORT Prepared for Department for Transport, Local Government and the Regions Research Analysis and Evaluation Division," no. November, 2001.
- [2] I. M. A. Dharmadiatmika, "Konsep Penataan Ruang Terbuka Hijau Publik Di Kota Kecamatan Mengwi, Kabupaten Badung, Provinsi Bali The Concept of Public Green Open Space Structuring in the City of Mengwi Sub-District, Badung Regency, Bali Province," *E-Jurnal Arsit. Lansek.*, vol. 3, no. 2, pp. 213–222, 2017.
- [3] M. Carmona, "Principles for public space design, planning to do better," *Urban Des. Int.*, vol. 24, no. 1, pp. 47–59, 2019.
- [4] F. Wiriantari, "Penataan Kawasan Tepi Tukad Badung dalam Upaya Pemberdayaan Masyarakat," *Anala*, vol. 2, no. 14, pp. 1–6, 2016.
- [5] K.-F. Richter, S. Winter, K.-F. Richter, and S. Winter, "Introduction: What Landmarks Are, and Why They Are Important," *Landmarks*, pp. 1–25, 2014.
- [6] F. Haverfield, "AncientTown-Planning, by F. Haverfield," in *London Conferenace on Town Planning*, 1913, pp. 1–61.
- [7] A. Meroni and P. Trapani, "Social innovation, collaborative networks and public space," *Hum. Cities Celebr. public Sp.*, pp. 16–20, 2010.
- [8] I. M. A. Mahendra, S. A. Paturusi, N. K. A. Dwijendra, and D. G. A. Diasana, "The Developmen of Klungkung Urban Areas in Term of Urban Design Elements and Balinese Cultural Space," in *IASTEM International Conference*, 2019, pp. 3–038.
- [9] A.. G. Djaya Bharuna S, N. Dwijendra, and P. Rumawan Salain, "Philosothi and Concept of Puri, A King Palace in Bali," *Int. J. Curr. Adv. Reasearch*, vol. 7, no. 6, pp. 13784–13789, 2018.
- [10] I. G. M. Putra, "Catuspatha, Konsep, transformasi dan Perubahan," *J. Permukim. Natah*, vol. 3, no. 2, pp. 62–101, 2005.
- [11] B. Rachmat, "Konsep Arsitektur Bali Aplikasinya Pada bangunan Puri," *NALARs*, vol. 12, no. 1, pp. 17–42, 2013.
- [12] N. K. Agusintadewi, "Konservasi Puri Smarapura di Klungkung, Bali," in *Seminar Ikatan Peneliti Lingkungan Binaan Indonesia*, 2017, pp. B297–B304.
- [13] S. Paturusi, "Segregasi Ruang Sosial Antara Pendatang dengan Penduduk Asli pada Permukiman Perkotaan di Denpasar," *J. Kaji. Bali (Journal Bali Stud.)*, vol. 6, no. 2, pp. 57–78, 2016.
- [14] L. M. Wangsa and N. Dwijendra, "SPACE," *Space*, vol. 6, no. 2, pp. 171–186, 2019.
- [15] N. K. A. Dwijendra, *Revitasilsasi Arsitektur Kawasan Pusaka di Bali*, 1st ed. Denpasar: STD BALI PRESS, 2016.
- [16] D. Radai, *Urban Planning, Public Space and Mobility*, 1st ed. Belgium: European Council of Spacial Planners, 2016.
- [17] M. Memluk Z., "Designing Urban Squares," *Adv. Landsc. Archit.*, vol. 19, no. 2012, pp. 513–530, 2013.
- [18] I. Tyschenko, "The Challenges of the Public Space," *Challenges*, vol. 1, no. 1, pp. 1–10, 2016.
- [19] S. Tonnelat, "The sociology of urban public spaces," *Sino French Urban Plan. Conf.*, pp. 1–10, 2004.
- [20] E. Darmawan, "Peranan Ruang Publik dalam Perancangan Kota (Uban Design)," *Pidato Pengukuhan Guru Besar UNDIP*. p. 57, 2007.
- [21] A. faris Ansori, "Revitalisasi Kawasan Alun-Alun Ponorogo,"

Universitas Sebelas Maret, 2012.

[22] P. Garau, "Measuring the magic of Public Space," *J. Pubic Sp.*, vol. 1, no. 1, pp. 17–24, 2016.

[23] M. Carmona and C. De Magalhaes, "Public space management: Present and potential," *Journal of Environmental Planning and Management*, vol. 49, no. 1, pp. 75–99, 2006.

[24] H. R. Morgenthaler, *The meaning of modern architecture: Its inner necessity and an empathetic reading*, no. April. 2015.

[25] K. Lynch, *The Image of the City*, 1st ed., vol. 1. Massachusetts USA: MIT Press, 1959.

[26] D. Prihutami, "Ruang publik kota yang berhasil," 2008.

[27] F. Zoido Naranjo, R. Palmer, M. Déjant-Pons, and Council of Europe, "Public Space and Landscape: The Human Scale," *Futuropana*, vol. 3, pp. 1–80, 2012.

[28] K. Worpole and K. Knox, "The Social Value of Public Spaces," *Jrf*, p. 15, 2007.

[29] I. N. Harry Juliarthana, *Pempatan Agung Klungkung*, vol. 1. 2008, pp. 1–14.

[30] R. Hakim, *Komponen Perancangan Arsitektur Lansekap*, 2nd ed. Jakarta: Bumi Aksara, 2012.

[31] N. Ujang and K. Zakariya, "The Notion of Place, Place Meaning and Identity in Urban Regeneration," *Procedia - Soc. Behav. Sci.*, vol. 170, pp. 709–717, Jan. 2015.

[32] J. Krase, "Place, Space, Identity: A Spatial Semiotics of the Urban Vernacular in Global Cities," *Int. J. Acad. Res. Bus. Soc. Sci.*, vol. 1, no. 1, p. 15, 2011.

[33] I. Wijaya Kusuma, "Building Orientation on Traditional Balinese Culture," *Hum. UGM*, vol. 15, no. 1, 2003.

[34] M. K. Adhi, "Tat Twam Asi: Adaptasi Nilai Kearifan Lokal Dalam Pengentasan Kemiskinan Kultural," *Semin. Nas. Ris. Inov.*, vol. 4, no. 1, pp. 589–603, 2016.

[35] R. Y. D. Tan, "The domestic architecture of South Bali," *Bijdr. tot Taal-, Land- en Volkenkd.*, vol. 123, no. 4, pp. 442–475, 2013.

[36] I. K. M. Wijaya, "Konsepsi Natak Dan Lebuah Sebagai 'Ruang Keseimbangan' Dalam Arsitektur Tradisional Bali," *J. Arsit. Zo.*, vol. 2, no. 2, p. 98, 2019.

[37] I. Sukarada, I. Sutjipta, and I. Setiawan AP, "Penerapan Tri Hita Karana terhadap Kawasan Agrowisata Buyan dan Tamblingan di Desa Pancasari, Kecamatan Sukasada, Kabupaten Buleleng," *J. Manaj. Agribisnis*, vol. 1, no. 2, pp. 43–52, 2013.

[38] F. Wiriantari and W. Mendra, "Desa Adat Tenganan Pegringsingan di Kecamatan Manggis Kabupaten Karangasem," *Anala*, vol. 1, no. 15, pp. 73–97, 2016.

[39] I. P. G. Suyoga, "Ruang Ideal Bali Dalam Tekanan Globalisasi," *Dharmasmrti J. Ilmu Agama dan Kebud.*, vol. 17, no. 1, pp. 24–30, 2017.

[40] H. A. Kusuma and G. Tanuwidjaja, "Desain Rumah Bali Kontemporer Yang Berbasis Konsep Tri Mandala," *Semin. Rumah Tradis. 2014-Transformasi Nilai-nilai Tradis. dalam Arsit. Masa Kini*, pp. 1–11, 2014.

[41] I. M. J. Waisnawa, "Pola Ruang Sanga mandala Sebagai Konsep Ekologi Dalam Penataan Rumah Tinggal Tradisional Bali," in *Agama, Adat, Seni dan Sejarah Di Zaman Milenial*, 2018, pp. 71–78.

[42] I. G. B. W. Kusuma, "The effect of permeability of the fence on the airflow around traditional tropical building," *AIP Conf. Proc.*, vol. 1887, no. September, 2017.

[43] R. Piutanti, "Pemaknaan Kembali Kearifan Lokal Dalam Arsitektur

- (Keterkaitan Manusia, Budaya dan Alam Nusantara),” *Semin. Nas. 2015 “Finding Fifth Elem. After Water, Earth, Wind, Fire” Local Wisdom Cult. Sustain. PEMAANAAN*, vol. 1, no. 1, pp. 13–21, 2015.
- [44] A. G. Djaya Baruna, “Pola Gridirion Kinshiop Puri Sukawati Sebagai Representasi Penataan Kawasan Kotaraja Akrab Lingkungan,” *J. Kaji. BALI Vol.*, vol. 02, no. april 2012, pp. 93–114, 2012.
- [45] I. M. Krisna Adhi Dharma and W. I. R. Aulia, “Pengaruh konsep catus patha terhadap tata ruang pemukiman di kawasan transmigrasi masyarakat Bali (Studi Kasus : Desa Jati Bali, Kabupaten Konawe Selatan, Sulawesi Tenggara),” in *Seminar Nasional Arsitektur dan Tata Ruang (SAMARTA)*, 2017, pp. 1–13.
- [46] M. M. Raharja, “Falsafah dan Konsep Ruang Tradisional Bali,” vol. 1, no. 1, 1993.
- [47] N. M. Yudiantini and D. Jones, “The Catuspatha Pattern in Balinese Palace: Architectural Conservation and Challenges,” *Procedia Environ. Sci.*, vol. 28, pp. 538–548, 2015.
- [48] E. D. Mahira, “SPACE,” *Space*, vol. 1, no. 2, pp. 1–12, 2009.
- [49] I. P. G. Suwitha, “Wacana ‘Kerajaan Majapahit Bali’: Dinamika Puri Dalam Pusaran Politik Identitas Kontemporer,” *J. Sej. Citra Lekha*, vol. 4, no. 1, p. 3, 2019.
- [50] M. R. Firmansyah and A. M. Ridjal, “Pola Ruang Pura Kahyangan Jawa Timur dan Bali Berdasarkan Susunan Kosmos Tri Angga dan Tri Hita Karana,” *J. Mhs. Jur. Arsit.*, vol. 5, no. 1, pp. 1–10, 2017.
- [51] H. A. Bala, “Landmarks in Urban Space as Signs,” *Curr. Urban Stud.*, vol. 04, no. 04, pp. 409–429, 2016.
- [52] A. Kalin and D. Yilmaz, “A study on visibility analysis of urban landmarks: The case of hagia sophia (ayasofya) in trabzon,” *Metu J. Fac. Archit.*, vol. 29, no. 1, pp. 241–271, 2012.
- [53] B. Böcekli, “Investigating the effects of nodes and landmarks in city planning practice,” Izmir Institute of Technology, 2003.
- [54] Y. Mandiri, “Konsep Catus Paha Sebagai Pembentuk Urban Physical Form,” in *Prosiding Seminar Heritage Tangible Intangible*, 2017, p. A 117-124.
- [55] F. Wiriantari, S. A. Paturusi, N. Ketut, and A. Dwijendra, “Catuspatha As A Landmark Of Semarang City In Terms Of Physical And Socio-Cultural Aspects,” *IJEET*, vol. 5, no. 1, 2020.
- [56] T. M. Hidayat, “Perancangan Tari Telek Bali,” 2019.
- [57] J. Mensch, “Public space,” *Cont. Philos. Rev.*, vol. 40, no. 1, pp. 31–47, 2007.
- [58] J. Németh, “Controlling the Commons: How Public Is Public Space?,” *Urban Aff. Rev.*, vol. 48, no. 6, pp. 811–835, 2012.
- [59] I. W. Wastawa and I. K. Sudarsana, “Desacralization of Catus Patha in Bali Hinduism Community,” *Wawasan J. Ilm. Agama dan Sos. Budaya*, vol. 4, no. 1, pp. 31–47, 2019.
- [60] I. M. Adhika, N. K. A. Dwijendra. Selfie Photos Area and Its Implication to Water Availability and Social Culture in Wanagiri Village, Bali Indonesia, *International Journal of Psychosocial Rehabilitation*, Vol. 24, No. 4, 2020, DOI: 10.37200/IJPR/V24I4/PR201652.
- [61] N. K. A. Dwijendra, Identity Struggle Perspective in Car-Shaped Shrine in Paluang Temple, Nusa Penida Bali, Indonesia, *International Journal of Psychosocial Rehabilitation*, Vol. 24, No. 4, DOI: 10.37200/IJPR/V24I4/PR201653, 2020.
- [62] Ngakan Ketut Acwin Dwijendra. (2020). From Tradition to Modernization in Morphological Process of Indigenous Settlement Patterns in Bali, Indonesia. In: *International Journal of Advanced Science and*

Technology, 29(8s), 172 - 184. Retrieved from <http://sersc.org/journals/index.php/IJAST/article/view/10437>.

[63] N. P. S. Nurjani, N. K. A. Dwijendra, How Traditional Balinese Houses Can Adjust and Cater for International Tourist in the Canggu Area, Bali Indonesia? In: *International Journal of Psychosocial Rehabilitation*, Vol. 24, No. 03, DOI: 10.37200/IJPR/V24I3/PR201901, 2020.

[64] M. V. Yogantari, N. K. A. Dwijendra, Visual Exploration Using Acrylic Paint on Used Fashion Items for Sustainable Use. In: *International Journal of Psychosocial Rehabilitation*, Vol. 24, No. 03, DOI: 10.37200/IJPR/V24I3/PR201902, 2020.

[65] I Nyoman Widya Paramadhyaksa, Ngakan Ketut Acwin Dwijendra, Ni Ketut Pande Dewi Jayanti, I Kadek Merta Wijaya (2020), Orientation on Spatial Planning in Pinggan Village, Kintamani District, Bangli Regency, Bali, Indonesia. *Solid State Technology* Volume: 63 Issue: 6 Publication Year: 2020.

[66] Ni Luh Putu Dessy Dharmayanty, Syamsul Alam Paturusi, Ngakan Ketut Acwin Dwijendra, Ni Ketut Agusinta Dewi, The Meaning of Vertical Housing for Balinese People, the Debate between Cultural Demands and the Need for Urban Housing in Bali, Indonesia. In: *International Journal of Psychosocial Rehabilitation*, Vol. 24, No. 7, DOI: 10.37200/IJPR/V24I3/PR201902, 2020.

[67] Ngakan Ketut Acwin Dwijendra, Laila Refiana Said, Totok Hendarto, Samuel PD Anantadjaya (2020). The green supply chain management practices effect in the context of Indonesian community empowerment and poverty reduction. In: *Journal of Talent Development and Excellence (TDE)*, Vol. 12 No. 4s (2020).

[68] Ngakan Ketut Acwin Dwijendra. I Putu Gede Suyoga (2020). Analyze of Symbolic Violence Practices in Balinese Vernacular Architecture, Bali Indonesia. In: *International Journal of Innovation, Creativity and Change*, Vol. 11, Issue 14, 2020.

[69] Ngakan Ketut Acwin Dwijendra. I Made Adhika, I Dewa Gede Agung Diasana Putra, I Gusti Putu Bagus Sastrawan Mananda, Ida Bagus Putu Adnyana (2020). Design Model Innovations for Tourism Villages in Bangli, Bali Indonesia: Debate between Environmental and Cultural Protection versus Community Economic Development. In: *International Journal of Advanced Science and Technology*, 29(9s).

[70] Agus Kurniawan, Putu Rumawan Salain, Ngakan Ketut Acwin Dwijendra, and I Gusti Ngurah Anom Rajendra (2020). Revealing the Meaning Behind Mandala of Agung Karangasem Palace, Bali Indonesia: Investigating Through Semiotics for Preservation of Historic Value. In: *International Journal of Advanced Science and Technology*, 29(8s).

[71] Ngakan Ketut Acwin Dwijendra, Frysa Wiriantari, Desak Made Sukma Widiyani, Anak Agung Ayu Sri Ratih Yulianasari, Arya Bagus Mahadwijati Wijaatmaja, Transformation of Catuspatha (Crossroad) In Bali Indonesia: Alteration Ideas From Empty Space To Aesthetic Element Of City, *Solid State Technology* Volume: 63 Issue: 6 Publication Year: 2020.

[72] Ngakan Ketut Acwin Dwijendra. (2020). Innovative Work Behaviors in Pharmacies of Indonesia: Role of Employee Voice, Generational Diversity Management and Employee Engagement. In: *Systematic Reviews in Pharmacy*, Vol 11, Issue 5, May 2020.

[73] Ngakan Made Anom Wiryasa and Ngakan Ketut Acwin Dwijendra, Innovative Products of Artificial Natural Stone: Alternative Solutions For Building Material Needs And Environmental Protection, *Solid State Technology*, Volume: 63 Issue: 6, Publication Year: 2020.

- [74] Ida BagusIdedhyana, Ngakan Putu Sueca, Ngakan Ketut Acwin Dwijendra and Ida BagusWirawibawa, (2020). Architecture of PadmasanaTiga in Besakih Temple, Bali Indonesia: Interpreted from the Concept of Shiva Siddhanta. In: *International Journal of Advanced Science and Technology*, Vol. 11, Issue 14, 2020.
- [75] Ngakan Ketut Acwin Dwijendra (2020). Meru as a Hindu Sacred Building Architecture with a High Roof and Resistant to Earthquakes in Bali, Indonesia. *Civil Engineering and Architecture*, Vol. 8 (3), pp. 350 - 358. DOI: 10.13189/cea.2020.080319. Retrieved from http://www.hrpub.org/journals/article_info.php?aid=9473.
- [76] Dharmayanty, Ni Luh Putu Dessy, Paturusi, Syamsul Alam, Dwijendra, Ngakan Ketut Acwin, and Dewi, Ni Ketut Agusinta. (2019), Development and Behaviour Response of the Balinese Inhabiting in Denpasar City and Badung Regency, Bali-Indonesia. In: *Journal of Social and Political Sciences*, Vol.2, No.2, 455-467.
- [77] Dwijendra, N.K.A. (2003). Bali Traditional Housing and Settlements. *Journal of Settlement Natak*, Vol. 1 No. February 1, 2003: 8 - 24.
- [78] Dwijendra, N.K.A. (2008) *Arsitektur Bangunan Suci, Berdasarkan Asta Kosala Kosali*, Denpasar: Udayana University Press.
- [79] Dwijendra, N.K.A. (2008) *Arsitektur Rumah Tradisional Bali, Berdasarkan Asta Kosala Kosali*, Denpasar: Udayana University Press.
- [80] Dwijendra, N.K.A. (2009) *Arsitektur Kebudayaan Bali Kuno*, Denpasar: Udayana University Press.
- [81] Dwijendra, N.K.A. (2010) *Arsitektur Tradisional Bali di RanahPublik*, Denpasar: Udayana University Press.
- [82] Ngakan Made Anom Wiryasa & Dwijendra, N.K.A. (2017). Institutional Structure Models in Implementation of Spatial Planning. *Journal of Sustainable Development; Vol. 10, No. 4; 2017 ISSN 1913-9063 E-ISSN 1913-9071*. Published by Canadian Center of Science and Education.
- [83] I NyomanWidyaParamadhyaksa, Ngakan Ketut Acwin Dwijendra, Ni Ketut PandeDewi Jayanti, I KadekMerta Wijaya (2020), Orientation on Spatial Planning in Pinggan Village, Kintamani District, Bangli Regency, Bali, Indonesia. *Solid State Technology* Volume: 63 Issue: 6 Publication Year: 2020.
- [84] Ngakan Ketut Acwin Dwijendra, FrysaWiriantari, Desak Made SukmaWidiyani, Anak Agung Ayu Sri RatihYulianasari, Arya BagusMahadwijatiWijaatmaja, Transformation of Catuspatha (Crossroad) In Bali Indonesia: Alteration Ideas From Empty Space To Aesthetic Element Of City, *Solid State Technology* Volume: 63 Issue: 6 Publication Year: 2020